

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-020655**Date Inspected:** 15-Feb-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Sha zhi**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder( OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG Assembly Bay- 14.

This QA Inspector randomly observed the following work in progress:

Shielded Metal Arc Welding (SMAW) welding of weld joint identified as SEG3020E-107. Welder is identified as 067764. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with Welding Procedure Specification (WPS): WPS-B-P-2214-TC-U4b-FCM-1.

SMAW welding of weld joint identified as DP3173-001-019. Welder is identified as 066443. American Bridge/Fluor (AB/F) QA is identified as Mr. Shen jian. The welding variables recorded by QA personnel observed appeared to comply with WPS: WPS-B-P-2212-TC-U4b-FCM-1.

SMAW welding of weld joint identified as DP3172-001-018. Welder is identified as 037840. American Bridge/Fluor (AB/F) QA is identified as Mr. Shen jian. The welding variables recorded by QA personnel observed appeared to comply with WPS: WPS-B-P-2212-TC-U4b-FCM-1.

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SMAW welding of weld joint identified as DP3172-001-021. Welder is identified as 037779. American Bridge/Fluor (AB/F) QA is identified as Mr. Shen jian. The welding variables recorded by QA personnel observed appeared to comply with WPS: WPS-B-P-2212-TC-U4b-FCM-1.

SMAW welding of weld joint identified as CA3015A-006. Welder is identified as 037996. ZPMC Quality Control (QC) is identified as Mr. Zhang lin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-P-2211-TC-U4b-FCM-1.

Flux Cored Arc Welding (FCAW) welding of weld joint identified as SEG3020BB-111. Welder is identified as 067876. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2233-ESAB.

SMAW Repair welding of weld joint identified as SA7512C-253. Welder is identified as 047864. ZPMC Quality Control (QC) is identified as Mr. Zheng zhi wei. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-345-SMAW-1G (1F)-FCM-Repair. The repair welding was being performed as per Critical Welding Repair Report (CWR) No: B-CWR2629 Rev.No.3. This weld was previously rejected by ZPMC QC personnel and recorded on UT report B787-UT-18524R3. Refer the attached photos for reference.

During random Visual Testing of OBG lift 13CW at Panel Point (PP) #122.5 Counter weight side Deck Panel identified as DP3152A, this QA observed one longitudinal linear toe crack measuring approximately 30 mm in length. The weld joint is identified as DP3152-001-008. The weld is fillet joining to deck panel diaphragm (X4121C) to U rib. The “Y” location is approximately 310 mm from top as shown on the picture below. This QA marked the area and informed ZPMC Quality Control (QC) Inspector identified as Mr. Zhang lin of this issue. Mr. Zhang lin informed this QA that the weld joint would be corrected in a manner compliant with the contract documents. This QA also informed the above issue to shop Lead QA inspector (verbally). Refer the attached photos for reference.

During random in process inspection of OBG lift 14West hinge plate FB3343A and Longitudinal diaphragm LD3048A, this QA observed welder was using cold electrodes during welding by using SMAW process. The weld joint is identified as SEG3020E-107. The weld is complete joint penetration joining to floor beam (FB3343A) to longitudinal diaphragm LD3048A. This QA informed ZPMC QC Inspector identified as Mr. Zhulin of this issue. Mr. Zhulin instruct the welder to discard the cold electrodes and new electrodes shall be used which are compliant with the contract documents. This QA noted that welder immediately removed all the electrodes from the oven and discard the cold electrodes. This QA also informed the above issue to shop Lead QA inspector (verbally). Refer the attached photos for reference.

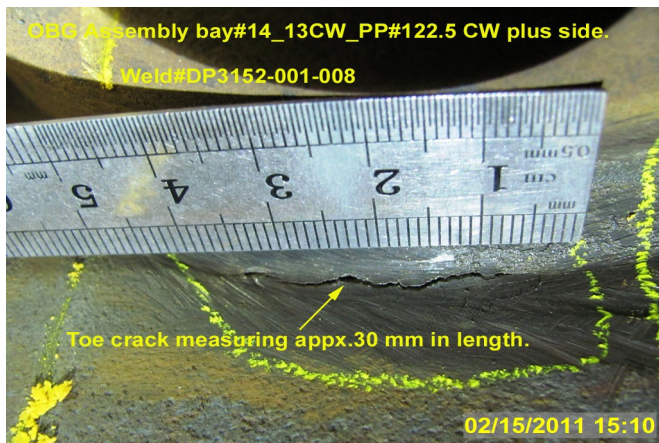
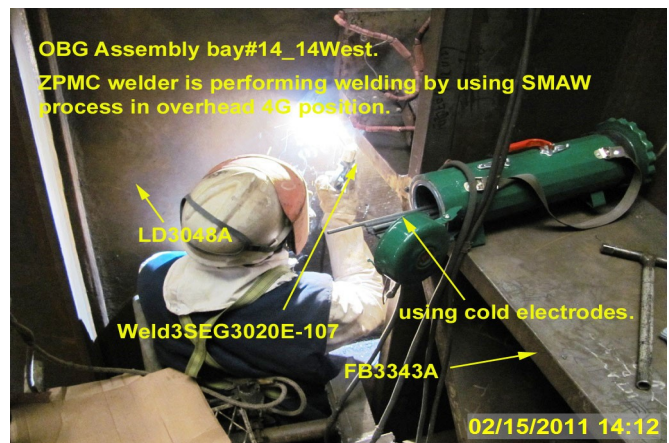
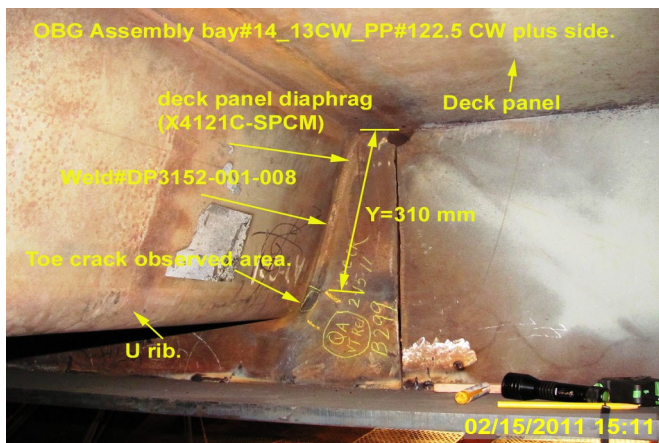
This QA did not generate any incident report for the above issues as per the shop lead QA inspector’s instructions.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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## Summary of Conversations:

No significant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

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**Reviewed By:** Peterson,Art

QA Reviewer